IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please AMEND claims 49 and 74 in accordance with the following:

Claim 1 (Original): An optical pickup comprising:

a light source to generate a laser beam of 500 nm or less;

an objective lens to focus the laser beam onto a medium;

a photodetector to convert the laser beam reflected from the medium into an electrical signal; and

a collimating lens arranged between said light source and said objective lens, including a diverging lens with diverging power and a focusing lens with focusing power,

wherein said collimating lens satisfies the relationship $-1.5 > f/fn$, where f is a total focal length of said collimating lens, and fn is a focal length of the diverging lens.

Claim 2 (Original): The optical pickup of claim 1, further comprising a beam splitter between said objective lens and said photodetector, to transmit the laser beam from said light source toward the medium through said objective lens, and to reflect the laser beam reflected from the medium toward said photodetector.

Claim 3 (Original): The optical pickup of claim 1, further comprising a condensing lens between said photodetector and said beam splitter, to condense the laser beam reflected from the medium onto said photodetector.

Claim 4 (Original): The optical pickup of claim 2, wherein said collimating lens is arranged between said beam splitter and said light source.

Claim 5 (Original): The optical pickup of claim 3, wherein said collimating lens is arranged between said beam splitter and said light source.

Claim 6 (Original): The optical pickup of claim 2, wherein said collimating lens is arranged between said objective lens and said beam splitter.

Claim 7 (Original): The optical pickup of claim 3, wherein said collimating lens is arranged between said objective lens and said beam splitter.

Claim 8 (Original): The optical pickup of claim 1, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 9 (Original): An optical pickup comprising:

first and second light sources, which correspond to first and second media, respectively, to generate laser beams of different wavelengths;

an objective lens to focus the laser beams from said first and second light sources onto the first and second media, respectively;

first and second photodetectors to receive the laser beams emitted from said first and second light sources and reflected from the first and second media, respectively; and

a collimating lens arranged on the optical path of one of the laser beams having a relatively short wavelength, said collimating lens including a diverging lens with diverging power and a focusing lens with focusing power,

wherein said collimating lens satisfies the relationship $-1.5 > f/fn$, where f is a total focal length of said collimating lens, and fn is a focal length of the diverging lens.

Claim 10 (Original): The optical pickup of claim 9, further comprising a wavelength selecting filter on the optical axis near said objective lens.

Claim 11 (Original): The optical pickup of claim 9, wherein said first light

source emits a laser beam having a wavelength of about 400 nm, and said second light source emits a laser beam having a wavelength of about 650 nm.

Claim 12 (Original): The optical pickup of claim 10, wherein said first light source emits a laser beam having a wavelength of about 400 nm, and said second light source emits a laser beam having a wavelength of about 650 nm.

Claim 13 (Original): The optical pickup of claim 9, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 14 (Original): The optical pickup of claim 12, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 15 (Original): An optical pickup comprising:

an objective lens selectively arranged opposite first and second media;

a first light source arranged on the optical path of said objective lens;

a beam splitter arranged between said objective lens and said first light source;

a second light source arranged on the optical path of the light reflected from said beam splitter;

a first photodetector to receive light emitted from said first light source and reflected from the first medium;

a second photodetector to receive light emitted from said second light source and reflected from the second medium; and

a collimating lens arranged between said objective lens and said beam splitter, said collimating lens including a diverging lens with diverging power and a focusing lens with focusing power,

wherein said collimating lens satisfies the relationship -1.5 > f/fn, where f is a total focal length of said collimating lens, and fn is a focal length of the diverging lens.

Claim 16 (Original): The optical pickup of claim 15, further comprising a wavelength selecting filter between said objective lens and said collimating lens, to control the numerical aperture (NA) of said objective lens.

Claim 17 (Original): The optical pickup of claim 9, wherein said first light source emits a laser beam having a wavelength of about 400 nm, and said second light source emits a laser beam having a wavelength of about 650 nm.

Claim 18 (Original): The optical pickup of claim 15, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 19 (Original): The optical pickup of claim 9, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 20 (Original): An optical pickup comprising:

an objective lens selectively arranged opposite first and second media;

a first light source arranged on the optical path of said objective lens, to emit a laser beam toward the first medium;

first, second and third beam splitters arranged on the optical path at predetermined positions from said first light source toward said objective lens;

a second light source arranged on the optical path of the light reflected by the first beam splitter, to emit a laser beam through the first beam splitter toward the second medium;

a first photodetector arranged on the optical path of the light reflected by the third beam

splitter, to receive the laser beam emitted from said first light source and reflected from the first medium;

a second photodetector arranged on the optical path of the light reflected by the second beam splitter, to receive the laser beam emitted from said second light source and reflected from the second medium; and

a collimating lens arranged between the second and third beam splitters, said collimating lens including a diverging lens with diverging power and a focusing lens with focusing power,

wherein said collimating lens satisfies the relationship $-1.5 > f/fn$, where f is a total focal length of said collimating lens, and fn is a focal length of the diverging lens.

Claim 21 (Original): The optical pickup of claim 20, further comprising a wavelength selecting filter between said objective lens and said collimating lens, to control the numerical aperture (NA) of said objective lens.

Claim 22 (Original): The optical pickup of claim 20, wherein said first light source emits the laser beam having a wavelength of about 400 nm, and said second light source emits the laser beam having a wavelength of about 650 nm.

Claim 23 (Original): The optical pickup of claim 20, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 24 (Original): The optical pickup of claim 22, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 25 (Original): An optical pickup comprising:

an objective lens selectively arranged opposite first and second media;

a first light source arranged on the optical path of said objective lens, to emit a laser beam toward the first optical disk;

first, second and third beam splitters arranged on the optical path at predetermined positions from said first light source toward said objective lens;

a second light source arranged on the optical path of the light reflected by the first beam splitter, to emit a laser beam through the first beam splitter toward the second medium;

a first photodetector arranged on the optical path of the light reflected by the third beam splitter, to receive the laser beam emitted from said first light source and reflected from the first medium;

a second photodetector arranged on the optical path of the light reflected by the second beam splitter, to receive the laser beam emitted from said second light source and reflected from the second medium; and

a collimating lens arranged between said objective lens and the third beam splitter, said collimating lens including a diverging lens with diverging power and a focusing lens with focusing power,

wherein said collimating lens satisfies the relationship $-1.5 > f/fn$, where f is a total focal length of said collimating lens, and fn is a focal length of the diverging lens.

Claim 26 (Original): The optical pickup of claim 25, further comprising a wavelength selecting filter between said objective lens and said collimating lens, to control the numerical aperture (NA) of said objective lens.

Claim 27 (Original): The optical pickup of claim 25, wherein said first light source emits the laser beam having a wavelength of about 400 nm, and said second light source emits the laser beam having a wavelength of about 650 nm.

Claim 28 (Original): The optical pickup of claim 25, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 29 (Original): The optical pickup of claim 27, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 30 (Original): The optical pickup of claim 2, further comprising a condensing lens between said photodetector and said beam splitter, to condense the laser beam reflected from the medium onto said photodetector.

Claim 31 (Original): The optical pickup of claim 30, wherein said collimating lens is arranged between said beam splitter and said light source.

Claim 32 (Original): The optical pickup of claim 30, wherein said collimating lens is arranged between said objective lens and said beam splitter.

Claim 33 (Original): The optical pickup of claim 31, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 34 (Original): The optical pickup of claim 32, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 35 (Original): The optical pickup of claim 2, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 36 (Original): The optical pickup of claim 5, the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 37 (Original): The optical pickup of claim 6, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 38 (Original): The optical pickup of claim 7, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 39 (Previously Presented): The optical pickup of claim 1, wherein said light source emits the laser beam having a wavelength of about 400 nm.

Claim 40 (Original): The optical pickup of claim 10, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 41 (Original): The optical pickup of claim 11, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and

collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 42 (Original): The optical pickup of claim 10, wherein said first light source emits the laser beam having a wavelength of about 400 nm, and said second light source emits the laser beam having a wavelength of about 650 nm.

Claim 43 (Original): The optical pickup of claim 16, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 44 (Original): The optical pickup of claim 21, wherein said first light source emits the laser beam having a wavelength of about 400 nm, and said second light source emits the laser beam having a wavelength of about 650 nm.

Claim 45 (Original): The optical pickup of claim 44, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 46 (Original): The optical pickup of claim 26, wherein said first light source emits the laser beam having a wavelength of about 400 nm, and said second light source emits the laser beam having a wavelength of about 650 nm.

Claim 47 (Original): The optical pickup of claim 26, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 48 (Original): The optical pickup of claim 46, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the first or second media, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 49 (Currently Amended): An optical pickup comprising:

a light source to generate a first light beam with a wavelength within a range of wavelengths under 500 nm ~~and which includes400 nm~~ for use with recording and/or reproducing with respect to a first medium and a second light beam with a wavelength outside of the range and which is roughly 650 nm for use with recording and/or reproducing with respect to a second medium other than the first medium;

an optical element to focus a generated one of the first and second light beams onto a received one of the first and second media;

a detector to detect the generated light beam reflected from the received one medium; and

a collimating lens arranged in an optical path between said light source and said optical element, the collimating lens having a diverging lens with a diverging power sufficient to allow the optical element be capable of:

focusing the first light beam for each of the wavelengths within the range onto the first medium with negligible aberration, and

focusing the second light beam with the wavelength of roughly 650 nm onto the second medium with negligible aberration.

Claim 50 (Previously Presented): An optical pickup comprising:

a light source to generate a light beam with a wavelength between roughly 400 nm and 650 nm;

an optical element to focus the light beam onto a medium;

a detector to detect the light beam reflected from the medium; and

a collimating lens arranged in an optical path between said light source and said optical element,

wherein:

the optical pickup focus the light beam onto the medium with negligible aberration, and

said collimating lens comprises a surface with a diverging power, and satisfies the relationship -1.5 > f/fn, where f is a total focal length of said collimating lens, and fn is a focal length of the surface with diverging power.

Claim 51 (Original): The optical pickup of claim 50, further comprising a $\lambda/4$ plate disposed in an optical path between said collimating lens and said optical element.

Claim 52 (Original): The optical pickup of claim 51, further comprising a beam splitter disposed between said collimating lens and said $\lambda/4$ plate, wherein said beam splitter

transmits the light beam from said collimating lens to said $\lambda/4$ plate, and

reflects the light beam from the medium to said detector.

Claim 53 (Original): The optical pickup of claim 50, further comprising a $\lambda/4$ plate disposed in an optical path between said collimating lens and said light source.

Claim 54 (Original): The optical pickup of claim 53, further comprising a beam splitter disposed between said light source and said $\lambda/4$ plate, wherein said beam splitter

transmits the light beam from said light source to said $\lambda/4$ plate, and

reflects the light beam from the medium to said detector.

Claim 55 (Original): The optical pickup of claim 50, wherein said collimating lens further comprises a focusing lens with focusing power disposed between the surface having the diverging power and the medium.

Claim 56 (Original): The optical pickup of claim 55, wherein the surface having the diverging power comprises a diverging lens.

Claim 57 (Original): The optical pickup of claim 56, wherein said optical

element comprises an objective lens.

Claim 58 (Original): The optical pickup of claim 57, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 59 (Original): The optical detector of claim 58, wherein said light source and said detector comprise a light emitter/detector device that generates the light beam and detects the light beam.

Claim 60 (Previously Presented): An optical pickup comprising:

light sources to emit respective light beams of different wavelengths, wherein one of the wavelengths is within a range that is less than roughly 500 nm and another one of the wavelengths is more than roughly 500 nm;

an optical element to focus the light beams onto respective media;

detectors to detect respective light beams reflected from the corresponding media; and

a collimating lens arranged between said light sources and said optical element, wherein said collimating lens comprises a surface with a diverging power,

wherein:

the optical pickup focuses the light beams emitted from the light sources and having passed through the collimating lens onto respective media with negligible aberration, and

the diverging power is sufficient to allow the optical pickup to focus the one light beam for each of a plurality of wavelengths within the range below 500 nm onto the respective medium with negligible aberration and also to allow the optical pickup to focus the another light beam having the wavelength above roughly 500 nm onto the respective medium with negligible aberration.

Claim 61 (Previously Presented): An optical pickup comprising:

light sources to emit respective light beams of different wavelengths, wherein one of the wavelengths is less than roughly 500 nm;

an optical element to focus the light beams onto respective media;

detectors to detect respective light beams reflected from the media; and

a collimating lens arranged between said light sources and said optical element, wherein said collimating lens comprises a surface with a diverging power,

wherein:

the optical pickup focuses light beams onto respective media with negligible aberration, and

said collimating lens satisfies the relationship $-1.5 > f/fn$, where f is a total focal length of said collimating lens, and fn is a focal length of the surface with diverging power.

Claim 62 (Original): The optical pickup of claim 61, wherein said collimating lens further comprises a focusing lens with focusing power disposed between the surface having the diverging power and the media.

Claim 63 (Original): The optical pickup of claim 62, wherein the surface having the diverging power comprises a diverging lens.

Claim 64 (Original): The optical pickup of claim 63, wherein said optical element comprises an objective lens.

Claim 65 (Original): The optical pickup of claim 64, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 66 (Original): The optical detector of claim 65, wherein at least one of said light sources and one of said detectors comprise a light emitter/detector device that emits and detects a respective light beam.

Claim 67 (Original): The optical detector of claim 65, further comprising a wavelength selecting filter, wherein said wavelength selecting filter controls the numerical

aperture of said objective lens based upon the wavelength of respective light beams.

Claim 68 (Previously Presented): The optical detector of claim 67, further comprising beam splitters disposed between respective light sources and said collimating lens, wherein said beam splitters reflect respective light beams, and transmit other incident light beams.

Claim 69 (Original): The optical detector of claim 68, wherein at least one of the light beams has a wavelength of about 400 nm, and another of the light beams has a wavelength of about 650 nm.

Claim 70 (Original): The optical detector of claim 68, where at least one of said beam splitters is disposed between said wavelength selecting filter and said collimating lens and reflects at least one of the light beams from a respective media onto a respective detector.

Claim 71 (Original): A collimating lens comprising:

a diverging lens with diverging power,

wherein the collimating lens satisfies the relationship -1.5 > f/fn, where f is a total focal length of the collimating lens, and fn is a focal length of said diverging lens.

Claim 72 (Original): The collimating lens of claim 71, further comprising:

a focusing lens with focusing power disposed between a light source and said diverging lens.

Claim 73 (Original): The collimating lens of claim 71, further comprising:

a focusing lens with focusing power, wherein said diverging lens is disposed between a light source and said focusing lens.

Claim 74 (Currently Amended): An optical system comprising:

light sources to emit a light beam ~~of roughly 400 nm and~~having a wavelength within a range under 500 nm and another light beam having a wavelength suitable for recording and/or reproducing data with respect to a digital versatile disc;

an optical element to focus the light beams onto respective media;

detectors to detect a respective light beam reflected from the media; and

a collimating lens arranged between said light source and said optical element, wherein said collimating lens comprises a surface with a diverging power,

wherein:

the optical system focuses each of the light beams emitted from the light sources and having passed through the collimating lens onto respective media with negligible aberration, and

the diverging power is sufficient to allow the optical pickup to focus the one light beam for each of a plurality of wavelengths within the range below 500 nm onto the respective medium with negligible aberration and also to allow the optical pickup to focus the another light beam onto the digital versatile disc with negligible aberration.

Claim 75 (Previously Presented): An optical system comprising:

a light source to emit a light beam of less than roughly 500 nm;

an optical element to focus the light beam onto a respective medium;

a detector to detect the light beam reflected from the medium; and

a collimating lens arranged between said light source and said optical element, wherein said collimating lens comprises a surface with a diverging power,

wherein:

the optical system focuses the light beam onto the respective medium with negligible aberration, and

said collimating lens satisfies the relationship $-1.5 > f/fn$, where f is a total focal length of said collimating lens, and fn is a focal length of the surface with diverging power.

Claim 76 (Original): The optical system of claim 75, wherein said collimating lens further comprises a focusing lens with focusing power disposed between the surface having the diverging power and the media.

Claim 77 (Original): The optical system of claim 76, wherein the surface having the diverging power comprises a diverging lens.

Claim 78 (Original): The optical system of claim 77, wherein said optical element comprises an objective lens.

Claim 79 (Original): The optical system of claim 78, wherein the optical pickup satisfies the relationship $-0.005 < 1/(f1 \cdot v1)+1/(f2 \cdot v2)+...+1/(fn \cdot vn) < 0.0005$, where

f1, f2, ..., and fn are focal lengths of respective lenses, including said objective and collimating lenses, from said light source toward the medium, and

v1, v2, ..., and vn, are Abbe's numbers of optical materials of the respective lenses.

Claim 80 (Original): The optical system of claim 79, said light source and said detector comprise a light emitter/detector device that emits and detects the light beam.

Claim 81 (Previously Presented): The optical system of claim 79, further comprising a beam splitter disposed between said light source and said collimating lens, wherein said beam splitter reflects and transmits the light beam.

Claim 82 (Previously Presented): The optical system of claim 81, where said beam splitter reflects the light beam from the respective medium onto said detector.